

NEMETS, O.F.; TOKAREVSKIY, V.V.

Spins and parities in certain states of Cd^{112} , Sn^{118} , and
 Sn^{120} . Izv. AN SSSR. Ser. fiz. 25 no.9:1138-1140 '61.
(MIRA 14:8)

1. Institut fiziki AN USSR.
(Cadmium--Isotopes)
(Tin--Isotopes)

S/056/62/042/006/011/047
B104/B102

AUTHORS: Nemets, O. F., Tokarevskiy, V. V.

TITLE: The "gross structure" of the proton spectra in stripping reactions

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 6, 1962, 1481 - 1487

TEXT: In order to study the "gross structure" of the proton energy spectra, the (d,p) stripping reactions on Fe^{56} , $\text{Cu}^{63,65}$, Zn , Se , Zr , Nb^{93} , $\text{Ag}^{107,109}$, $\text{Cd}^{111,116}$, $\text{Sn}^{116-120,124}$, Pt , Au^{196} , Pb^{208} , and Bi^{209} nuclei were investigated. Measurements were made with an external 13.6 Mev deuteron beam of the cyclotron of the Institut fiziki AN USSR (Institute of Physics, AS UkrSSR). The targets were unbacked films of between 2 and 6 mg/cm^2 thickness. The differential cross section of the stripping reaction as function of the energy liberated exhibits maxima. There is a clear relationship between the positions of the maxima of this gross structure and the strongly excited levels of the nuclei. Many levels correspond to each

Card 1/2

S/056/62/042/006/011/047
B104/B102

The "gross structure"...

maximum of the gross structure. As the nuclear shells progressively become filled the energy liberated in the transition of the residual nucleus to the ground state decreases. The maxima of the neutron spectra are coordinated with an excitation of the single-particle states of the nuclei. There are 3 figures and 1 table. ✓

SUBMITTED: January 30, 1962

Card 2/2

TOKAREVSKIY, V. V., and others

"Investigation of elastic and inelastic scattering of protons and deuterons by light nuclei"

Report presented at the Conference on Nuclear Reactions produced by light nuclei,
Dubna, December 1962

NEMETS, O.F.; TOKAREVSKIY, V.V.

"Gross structure" of proton spectra in stripping reactions.
Zhur. eksp. i teor. fiz. 42 no.6:1481-1487 Je '62. (MIRA 15:9)
(Nuclear reactions) (Protons—Spectra)

NEMETS, O.F.; TOKAREVSKIY, V.V.

Inelastic deuteron scattering on certain chromium, zinc, and tin
isotopes. Izv. AN SSSR. Ser. fiz. 27 no.7:927-931 '63.
(MIRA 16:8)

1. Institut fiziki AN UkrSSR.
(Deuterons--Scattering)

L 11397-63

EWT(m)/BDS AFFTC/ASD

S/120/63/000/002/006/041

52

AUTHOR: Nemets, O. F., Struzhko, B. G., and Tokarevskiy, V. V.
TITLE: Selective scintillation spectrometer ¹⁹ for charged particles
PERIODICAL: Prihory i tekhnika eksperimenta, March-April 1963, v. 8, no. 2,
34-36

TEXT: The article describes a spectroscopy capable of simultaneously measuring the specific ionization losses (dE/dx) and the total energy (E) of charged particles by means of two CsI(Tl) crystal scintillation spectrometers in the same housing. The energy resolution of the spectrometer is 3-3.5 percent and it may be used for conducting measurements beginning with very small angles. There are five figures.

ASSOCIATION: Institut fiziki AN USSR (Physics Institute, Academy of Sciences
Ukrainian SSR)

SUBMITTED: June 19, 1962

ja/CA

Card 1/1

L 17865-63

EWT(m)/BDS AFPTC/ASD

S/0048/63/027/007/0927/0931

ACCESSION NR: AP3003698

AUTHOR: Nemets, O.F.; Tokarevskiy, V.V.

TITLE: Inelastic scattering of deuterons by some chromium, zinc and tin isotopes
/Report of the Thirteenth Annual Conference on Nuclear Spectroscopy, held in
Kiev from 25 January to 2 February 1963/

SOURCE: AN SSSR, Izv.Seriya fizicheskaya, v.27, no.7, 1963, 927-931

TOPIC TAGS: deuteron scattering, inelastic scattering, Cr, Zn, Sn, chromium, zinc, tin

ABSTRACT: The singularities of deuterons (low binding energy, asymmetry and large radius) largely determine the particular mechanism of inelastic scattering of these particles and make it different from the scattering mechanism typical of other particles. Despite the fact that there have been numerous studies of inelastic deuteron scattering since 1949, the nature of the mechanism involved is still obscure, and, owing to the lack of an adequate theory and full data, the results of deuteron scattering experiments cannot be utilized for the purposes of nuclear spectroscopy. Hence for the purpose of obtaining additional information on inelastic scattering of deuterons the authors carried out measurements of the differential inelastic scattering cross sections for 13.6 MeV deuterons by Cr^{50} (0.79 MeV),

Card 1/2

L 17865-63

ACCESSION NR: AP 3003698

3

Cr⁵² (1.42 MeV), Zn⁶⁴ (0.98 MeV), Zn⁶⁸ (1.02 MeV), Zn⁷⁰ (1.0 MeV) and Sn¹¹⁶ (1.2 and 2.3 MeV). The scattered deuterons were detected by means of a scintillation spectrometer, using the "dE/dx and E method". The observed angular distributions are presented in the form of curves. It is difficult to identify a predominant reaction mechanism on the basis of the results for inelastic scattering. It would appear that the conclusion of M.El-Nadi and M.Wafik (Proc.Phys.Soc., 76, 185, 1960) that the predominant inelastic scattering mechanism in stripping is valid only for light nuclei in the range of medium angles. "The authors are grateful to A.P.Klyucharev for providing the isotopic targets, L.I.Slyusarenko for assistance in the work and the personnel of the Cyclotron Laboratory for insuring faultless operation of the accelerator." Orig.art.has: 7 figures and 1 table.

ASSOCIATION: Institut fiziki Akademii nauk UkrSSR (Institute of Physics, Academy of Sciences, UkrSSR)

SUBMITTED: 00

DATE ACQ: 02Aug63

ENCL: 00

SUB CODE: NS

NO REF SOV: 002

OTHER: 016

Card 2/2

L 13618-63

EWP(q)/EWT(m)/BDS

AFFTC/ASD

JD

ACCESSION NR: AP3003095

S/0056/63/044/006/1765/1769

61
60

AUTHOR: Val'ter, A. K.; Klyucharev, A. P.; Nemets, O. F.; Tokarevskiy, V. V.

TITLE: Elastic scattering of ¹⁹deuterons by ¹⁹chromium and zinc isotopes

SOURCE: Zhurnal eksper. i teor. fiziki, v. 44, no. 6, 1963, 1765-1769

TOPIC TAGS: elastic deuteron scattering, chromium isotope, zinc isotope, angular distribution, optical model, compound nucleus model

ABSTRACT: The angular distributions of 13.6-MeV deuterons elastically scattered by Cr sup 50, 52, 53, 54, and Zn sup 64, 68, 70 isotopes are measured at angles from 2.5 to 150° with the aim of studying isotopic effects for elastic scattering of deuterons, similar to studies already made for protons. The curves obtained for the ratio of the experimentally measured cross sections to the cross sections for Coulomb scattering have a diffraction nature. As the number of neutron increases, the maxima shift toward the smaller angles and the cross section begins to decrease at a higher rate with increasing angle. Comparison is made with data obtained by others. "In conclusion, the authors take this opportunity to express their gratitude to V. N. Medyanik, L. G. Lishenko, and A. D. Nikolaychuk for preparing the isotope targets, and to the cyclotron crew for uninterrupted operation of the apparatus.

Card 1/2/

Association: Inst. of Physics, Academy of Sciences, UkrSSR

S/056/63/044/001/004/067
B108/B180

AUTHORS: Zaika, N. I., Nemets, O. F., Tokarevskiy, V. V.

TITLE: The spins and parities of some states of molybdenum isotopes

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44,
no. 1, 1963, 17 - 21

TEXT: The angular distributions of protons emerging from (d,p) reactions on targets enriched in Mo⁹², 94, 95, 96 were measured by means of an ionization chamber with a deuteron absorber at its input. The deuterons releasing the reaction had an energy of 13.6 Mev. The angular momenta for neutron capture in the ground, and first excited, states were obtained from the experimental data with the aid of Butler's theory (Proc. Roy. Soc., A208, 559, 1951). The possible spins and parities of these states of the Mo isotopes are considered in this way. Results: Mo⁹² - (1) 3/2⁺ or 5/2⁺, (2) 1/2⁺; Mo⁹³ - (1) 5/2⁺, (2) 1/2⁺; Mo⁹⁵ - (1) 3/2⁺ or 5/2⁺, (2) 1/2⁺; Mo⁹⁶ - (1) from 0⁺ to 5⁺, (2) probably 5/2⁺; Mo⁹⁷ - (1) 5/2⁺,
Card 1/2

S/056/63/044/001/004/067
B108/B180

The spins and parities of some ...

(2) $1/2^+$ and $7/2^+$, not resolved. (1) refers to the ground level, (2) to the first excited level. It is pointed out that the (d,p) reactions are suitable for nuclear spectroscopy in the range of atomic weights around 100 at energies of 13 - 15 Mev. There are 4 figures. ✓

ASSOCIATION: Institut fiziki Akademii nauk Ukrainskoy SSR (Physics
Institute of the Academy of Sciences Ukrainskaya SSR)

SUBMITTED: June 18, 1962

Card 2/2

NEMETS, O.F.; PIKAR, F. [Picard, F.]; SLYUSARENKO, L.I.; TOKAREVSKIY, V.V.

Elastic deuteron scattering on nitrogen, oxygen, and argon.
Zhur. eksp. i teor. fiz. 45 no.4:850-851 0 '63. (MIRA 16:11)

1. Institut fiziki AN UkrSSR. 2. Sotrudnik Laboratorii yadernoy
fiziki imeni Zholio-Kyuri, Orse, Frantsiya.

ZAICA, N.I.; NEMETS, G.F.; TOKARENKII, V.V.

Determining the fundamental characteristics of levels by
means of direct (dp) and (dd') reactions. Izv. AN USSR.
Ser. fiz. 28 no.10:1637-1636 O '64. (MIRA 17:12)

L 14495-65

ACCESSION NR: A24048643

2

with a cut-off parameter that exceeds the nuclear radius by 2 fermi. It is con-
cluded that for ^{16}O nuclei the cut-off parameter is about 2.5 fermi.

Mr. G. I. Iosadze, Institute of Physics, Academy of Sciences, USSR Physics Institute, Academy of
Sciences, Moscow, USSR.

SUB CODE: NP

NR REF SOV-000

OTHER: 005

2/2

L 14496-65

ACCESSION NR: AP4048044

2

or M.El-Nadi (Phys.Rev.119,242,1960), and encouraging agreement was found. It was found that, in contrast with the behavior observed in (d,p) reactions, the probabilities for the transfer of all angular momenta were tied by the same factor.

LOCATION: Institut fiziki Akademii nauk USSR Physics Institute, Moscow

SUBMITTED: 00

ENCL: 00

SUB CODE: NP

NR REF SOV: 001

OTHER: 003

2/2

..., B. N.; NEMETS, O. F.; PIKAR, F.; STRYUK, Yu. S.; TOKAREVSKIY, V. V.

"Investigations of the Lowest States of Mg^{25} ."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22
Feb 64.

IF AN UKSSR, KGU [Inst Physics, AS UkSSR, Kiev State Univ]

NEMETS, O. P.; STRYUK, Yu. S.; TOKAREVSKIY, V. V.

"Investigations of Low-Lying States of Si^{30} ."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22
Feb 64.

Inst Physics, UkSSR, Kiev State Univ

З.А. К.В.
ZAKKA, N. I.; NEMETS, O. F.; TOKAREVSKIY, V. V.

"Determination by Model of the Nature of Levels of the Nucleus with the
Help of Direct Reactions (d,p) and (d,d')."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22
Feb 64.

Inst Physics, AS UkrSSR

I 100

ACCESSION NR: 1P4040635

fore clear deductions can be drawn. The 100th express their gratitude to Aca-

100th 100th 100th

ASSOCIATION: none

SUBMITTED: CO

ENCL: CO

SUB CODE: NP

NR REF SOV: 025

OTHER: 034

3/3

HEMETTS, O.F. [Niemets', O.F.]; SLYUSARENKO, L.I.; TOKAREVSKIY, V.V. [Tokarevs'kyi, V.V.]

Excitation of a single-phonon quadruplet in the inelastic scattering of deuterons on copper isotopes. Ukr. fiz. zhur. 9 no.5:564-566 My '64.
(MIRA 17:9)

1. Institut fiziki AN UkrSSR, Kiyev.

NEMETS, O.F. [Niemets', O.F.]; PIKAR, F.; SLYUSARENKO, L.I.; TOKAREVSKIY,
V.V. [Tokarevs'kyi, V.V.]

Angular distribution of 13.6 Mev. deuterons elastically scattered
by certain light and medium nuclei. Ukr. fiz. zhur. 9 no.6:599-609
Je '64. (MIRA 17:11)

1. Institut fiziki AN UkrSSR, Kiyev. 2. Laboratoriya imeni Zholio-
Kyuri, Orse, Frantsiya (for Pikar).

TOKAREVSKIY, V.V. [Tokarevs'kyi, V.V.]; YAO LYAN [Yao Liang]

Inelastic scattering of deuterons by zinc and zirconium. Ukr.
fiz. zhur. 9 no.6:610-616 Je '64.

(MIRA 17:11)

1. Institut fiziki AN UkrSSR, Kiyev.

NEMETS, O.F.; PIKAR, F. [Picard, F.]; TOKAREVSKIY, V.V.

Inelastic scattering of deuterons by certain even lead isotopes.
Zhur. eksp. i teor. fiz. 46 no.5:1898-1900 My '64.

(MIRA 17:6)

1. Institut fiziki AN UkrSSR. 2. Laboratoriya imeni Zholio-
Kyuri, Orse, Frantsiya (for Pikar).

NEMETS, O.F.; PIKAR, F.; SLYUSARENKO, L.I.; TOKAREVSKIY, V.V.

Elastic scattering of deuterons on strontium and tin isotopes.
Zhur, eksp. i teor. fiz. 46 no.5:1900-1901 My '64.

(MIRA 17:6)

1. Institut fiziki AN UkrSSR. 2. Laboratoriya imeni Zholio-
Kyuri, Orse, Frantsiya (for Pikar).

TOKAREWA, F. A.

"Sur la reaction du diazomethane avec l'etanolmercuro-bromure et sur la structure des produits de la dioxation des sels sur mercure sur les olefines."

Freidline, R. Ch., Nesmelanow, A. N. et Tokarewa, F. A. (p. 262)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1937, Volume 7, No. 1

TOKARZ, Feliks; HCLYST, Jerzy; GRADZKI, Janusz

Anomaly of Galen's vein. Neurol., neurochir., psychiat. Pol.
14 no.3:541-543 My-Je '64

1. Z Kliniki Neurochirurgii Akademii Medycznej w Poznaniu
(Kierownik: doc. dr. H. Powiertowski).

TOKARZ, Feliks; MATLOSZ, Zenon

Two cases of epidermoid cyst of the cerebellopontile angle.
Neurol., neurochir., psychiat. Pol. 14 no.3:545-547 My-Je '64

1. Z Kliniki Neurochirurgii Akademii Medycznej w Poznaniu
(Kierownik: doc. dr. med. H.Powiertowski).

TOKAROV, V.P., OL'MAN, YE. V. and SOLCV'YEV, YA. I.

Autopilots

Oborongiz (1946)

TOKAROVSKIY, D.I.

Electric signalization and telephone communications used in
sinking shafts. Biul.tekh.-ekon.inform. no.10:7-9 ' 58.

(MIRA 11:12)

(Mining engineering--Safety measures)

(Telephone--Apparatus and supplies)

(Signals and signaling)

TOKAROVSKIY, D.I., inzh.; UMANSKIY, Ye.Ya., inzh.

Equipment for automatic drainage in mining. Shakht.stroi.
no.10:16-19 0 '59. (MIRA 13:2)
(Mine drainage--Equipment and supplies)

TOKAROVSKIY, D.I., inzh.

Introducing automatic control of mine hoisting systems. Shakht.
stroil. no.9:4-7 S '59. (MIRA 12:12)
(Mine hoisting) (Automatic control)

TOKAROVSKIY, D.I.

Speed control of bucket motion in mine shafts. Biul.tekh.-ekon.
inform. no.5:4-5 '58.

(MIRA 11:7)

(Mining engineering)

POKROVSKIY, D.I.

ANDROS, I.P., inzh.; ASSONOV, V.A., kand. tekhn. nauk.; BERNSTEYN, S.A., inzh.; BOKIY, B.V., prof.; BROVMAN, Ya.V., inzh. BONDARENKO, A.P., inzh.; BUCHNEV, V.K., kand. tekhn. nauk; VERESKUNOV, G.P., kand. tekhn. nauk; VOLKOV, A.F., inzh.; GELESKUL, M.N., kand. tekhn. nauk; GORODNICHYEV, V.M., inzh.; DEMENT'YEV, A.Ya., inzh.; DOKUCHAYEV, M.M., inzh.; DUBNOV, L.V., kand. tekhn. nauk; ZEPHANTSEV, Yu.K., kand. tekhn. nauk; YERASHKO, I.S., inzh.; ZHEDANOV, S.A., kand. tekhn. nauk; ZIL'BERBROD, A.F., inzh.; ZINGHENKO, E.M., inzh.; ZORI, A.S., inzh.; KAPLAN, L.B., inzh.; KATSAUROV, I.N., dots.; KITAYSKIY, E.Y., inzh.; KRAVTSOV, Ye.P., inzh.; KRIVOROG, S.A., inzh.; KRINITSKIY, L.M., kand. tekhn. nauk; LITVIN, A.Z., inzh.; MALEVICH, N.A., kand. tekhn. nauk; MAN'KOVSKIY, G.I., doktor tekhn. nauk; MATKOVSKIY, A.L., inzh.; MINDELI, E.O., kand. tekhn. nauk; NAZAROV, P.P., kand. tekhn. nauk; NASONOV, I.D., kand. tekhn. nauk; NEYENBURG, V.Ye., kand. tekhn. nauk; POKROVSKIY, G.I., prof., doktor tekhn. nauk; PROYAVKIN, E.T., kand. tekhn. nauk; ROZENBAUM, inzh.; ROSSI, B.D., kand. tekhn. nauk; SEMEYSKIY, V.N., doktor tekhn. nauk; SKIRGELLO, O.B., inzh.; SUKHUT, A.A., inzh.; SUKHANOV, A.F., prof., doktor tekhn. nauk; TABANOV, P.Ya., kand. tekhn. nauk; TOKAROVSKIY, D.I., inzh.; TRUPAK, N.G., prof., doktor tekhn. nauk; FEDOROV, S.A., prof., doktor tekhn. nauk; FEDYUKIN, V.A., inzh.; KHOKHLOVKIN, D.M., inzh.; KHRABROV, N.I., kand. tekhn. nauk; CHEKAREV, V.A., inzh.; CHERNAVKIN, N.N., inzh.; SHREYBER, B.P., kand. tekhn. nauk; EPOV, B.A., kand. tekhn. nauk; YAKUSHIN, N.P., kand. tekhn. nauk; YANCHUR, A.M., inzh.; YAKHONTOV, A.D., inzh.; POKROVSKIY, N.M., otvetstvennyy red.; KAPLUN, Ya.G. [deceased], red.; MONIN, G.I., red.; SAVITSKIY, V.T., (Continued on next card)

ANDROS, I.P.---(continued) Card 2.

red.; SANOVICH, P.O., red.; VOLOVICH, M.Z., inzh., red.; GORITSKIY, A.V., inzh., red.; POLUYANOV, V.A., inzh., red.; PADZYEV, E.I., inzh., red.; CHECHKOV, L.V., red. izd-va; PROZOROVSKAYA, V.L., tekhn. red.; NADEINSKAYA, A.A., tekhn. red.

[Mining; an encyclopaedic handbook] Gornoe delo; entsiklopedicheskii spravochnik. Glav. red. A.M. Terpigorev. Moskva, Gos. nauchno-tekhnicheskoe izd-vo lit-ry po ugol'noi promyshl. Vol. 3 [Mining and timbering] Provedeniye i kreplosn'ye gornykh vyrabotok. Red-kollegiya tova: N.M. Pskovskii... 1958. 464 p. (MIRA 11:7)

(Mine timbering) (Mining engineering)

TOKAROWSKI, Andrzej

Electromyographic evaluation of the activity of anticholinesterases
in the regressive stage of Heine-Medin disease. Pol. tyg. lek.
19 no.4:124-126 27 Ja '64.

1. Z Kliniki Chirurgii Ortopedycznej Sl. Akademii Medycznej w
Bytomiu (kierownik: prof. dr med. Gabriel Wejsflog).

TOKAROWSKI, Andrzej

Electromyographic muscle test. Pol. tyg. lek. 19 no.34:
1299-1300 24 S '64.

1. Z Kliniki Chirurgii Ortopedycznej Sl. Akademii Medycznej
w Bytomiu (kierownik: prof. dr med. Gabriel Wejsflog).

TOKAROWSKI, Andrzej

Respiratory disorders in cervical and upper thoracic injuries of the spine associated with paralysis. Chir. narząd. ruchu ortop. Pol. 29 no.2:165-169 '64.

1. Z Kliniki Chirurgii Ortopedycznej w Bytomiu (Kierownik: prof. dr. G. Wejsflog).

TOKAROWSKI, Andrzej

Miomechanics of idiopathic scoliosis in the light of electromyographic studies. Chir. narząd. ruchu ortop. Pol. 30 no.4: 385-390 '65.

1. Z Kliniki Chirurgii Ortopedycznej Śląskiej AM w Bytomiu (Kierownik: prof. dr. med. G. Wejsflog).

TOKAROWSKI, Andrzej

Pathogenesis of idiopathic scoliosis in the light of electromyographic studies. Chir. narząd. ruchu ortopd. Pol. 30 no.3: 299-304 '65.

1. Z Kliniki Chirurgii Ortopedycznej Śląskiej AM w Bytomiu (Kierownik: prof. dr. med. G. Wejsflog).

TOKARSKA, B.

Industrial design in Great Britain after the war. Biuletyn Wzor.

p. 1 (Szklo i Ceramika) Vol. 8, no. 10, Oct. 1957, Warszawa, Poland

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC, VOL. 7, NO. 1, JAN. 1958

L 1398-66 EWT(u)

ACCESSION NR: AP5017763

UR/0216/65/000/004/0507/0520

577.391

AUTHOR: Kuzin, A. M.; Flyshevskaya, Ye. G.; Kopylov, V. A.;

Ivanitskaya, Ye. A.; Lebedeva, N. Ye.; Kolomytseva, I. K.;

Tokarskaya, S. K.; Mol'nikova, S. K.

TITLE: Role of the "orthophenol-orthoquinone" system in the primary mechanisms of radiation effect on the organism

SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 4, 1965, 507-520

TOPIC TAGS: radiation biologic effect, phenol, quinone, enzyme, desoxyribonucleic acid, tyrosine, oxidation

ABSTRACT: A hypothesis stating that the oxidation reaction of orthophenols in response to high energy irradiation is closely related to the formation of orthoquinones (semiquinones) has evolved from the experimental work of the laboratory with which the authors are associated. In the present study the immediate effects of X-irradiation on enzyme process rates were investigated in a tyrosine+tyrosinase model system under strictly controlled conditions

Card 1/3

L 1398-66

ACCESSION NR: AP5017763

(210 kv, 15 ma, no filter, 100 to 1000 r doses, 10 min incubation). Change in enzyme process rate was determined by the concentration of newly formed orthophenols and orthoquinones. With irradiation of the whole system, the concentration was 5 times higher than for controls. Irradiation of only the tyrosine solution led to a lesser concentration, and the concentration decreased still further with irradiation of only the tyrosinase. When the irradiated mixture was incubated with a suspension of mouse thymus nuclei, the tyrosine oxidation products (orthoquinones) were completely absorbed by the nuclei. Fluorescence tests with acridine-orange on thymus nuclei of mice immediately after irradiation and tests on thymus nuclei treated with tyrosine oxidation products demonstrated the similarity of irradiation effect and orthoquinone effect. The same effect was demonstrated with quinone extracts from gamma-irradiated plant tissue (potato). Treatment of carbon-labeled plant sprouts with extracts from irradiated plants depressed DNA synthesis by 50 to 60%, the same as after gamma-irradiation. Injection of purified orthoquinones, extracted from irradiated plant tissues, into young mice caused loss of weight, growth inhibition, and a sharp decrease in leukocyte level of the peripheral blood. These study data demonstrate the importance of the

Card 2/3

L 1398-66

ACCESSION NR: AP5017763

"orthophenol-orthoquinone system" in the primary mechanisms of radiation effect. Orig. art. has: 10 figures and 4 tables.

ASSOCIATION: Institut biologicheskoy fiziki AN SSSR (Institute of Biophysics AN SSSR)

SUBMITTED: 22Jan65

ENCL: 00

SUB CODE: LS

NR REF SOV: 021

OTHER: 010

Card 3/3

L 20693-66 ENT(1)/ENT(m)/T JK/RM

ACC NR: AP6007761

SOURCE CODE: UR/0205/66/006/001/0003/0008

AUTHOR: Tokarskaya, V. I.; Kuzin, A. M.

ORG: Institute of Biological Physics AN SSSR, Moscow (Institut biologicheskoy fizi-
ki AN SSSR)

TITLE: The effect of fast neutrons on DNA synthesis in seedlings

SOURCE: Radiobiologiya, v. 6, no. 1, 1966, 3-8

TOPIC TAGS: neutron irradiation, irradiation damage, gamma irradiation, cytoplasm,
plant injury

ABSTRACT: Dry pea seeds of the Pobeditel' variety were irradiated with fast neu-
trons at 1, 3, and 10 krad, and the absorption of C^{14} in 4-7 day old seedlings grown
from the irradiated seeds was studied. An IRT-100 reactor with a mixed beam com-
prising 30+ % gamma rays was used for the irradiation. In seeds irradiated with
fast neutrons at 1-10 krad, C^{14} was found in 4-7 day old seedlings. Under neutron
irradiation, the rate of DNA synthesis dropped 90% (compared with the control sam-
ples). Gamma irradiation of the seeds at the same dosage lowered DNA synthesis in

Card 1/2

UDC: 539.125.5 : 58.039.1

L 20693-66

ACC NR: AP6007761

the seedlings by 30%. Unlike gamma irradiation, neutron irradiation lowered high polymer DNA yield by 50%—60%. It is concluded that under gamma irradiation, the destruction of DNA is largely due to the damage to cytoplasm metabolism, while under neutron irradiation, the cells are damaged owing to the disruption of the adenine structure in DNA. The DNA synthesis rate as a function of dosage and kind of irradiation is graphed. Orig. art. has: 4 figures and 2 tables. [14]

SUB CODE: 06/

SUBM DATE: 23Oct64/

ORIG REF: 007/

OTH REF: 007/

ATD PRESS: 4223

Card 2/2 BK

KUZIN, A.M.; PLYSHEVSKAYA, Ye.G.; KOPYLOV, V.A.; IVANITSKAYA, Ye.A.; LEBEDEVA, N.Ye.
KOLOMIYTSSEVA, I.K.; TOKARSKAYA, V.I., MEL'NIKOVA, S.K.

Role of orthophenol-orthoquinone system in the initial mechanisms of
ionizing radiation action on the organism. Izv. AN SSSR. Ser. biol.
no.4:507-520 J1-Ag '65. (MIRA 18:7)

1. Institut biologicheskoy fiziki AN SSSR.

TOKARSKAYA, V.I.

Deamination of adenine in DNA of seeds subjected to the action
of fast neutrons. Radiobiologiya 5 no.4:566-570 '65.

1. Institut biologicheskoy fiziki AN SSSR, Moskva. (MIRA 18:9)

ALEKSEYEV, R.I.; TOKARSKAYA, Ye.A.

Attachment for gas analysis for the FEK-type photocolormeter
(photometric determination in gaseous mixtures of water vapor,
sulfur dioxide, and acetylene). Zhur. anal. khim. 20 no.9:
983-989 '65. (MIRA 18:9)

ALFA-ELIV, R.I.; TOK-ESKAYA, Ye.A.

Semiautomatic laboratory device for measuring equal portions
of gas. Zav. lab. 30 no.5:636 '64. (MIRA 17:5)

TOKARSKAYA, Z.B., Cand Med Sci-- (Rus) "Changes in tissue auto-
lysis in radiation sickness." Len , 198. 15 pp (Central Sci Res Inst
of Medical Radiology of the Min of Health USSR), 150 copies
(KI,48-78, 107)

-7-

TOKARSKAYA, Z.B.

State of proteolysis in combined injuries (trauma and X irradiation). Vop.radiobiol. 2:145-149 '57. (MIRA 12:6)

1. Sotrudnik Tsentral'nogo nauchno-issledovatel'skogo rentgeno-radiologicheskogo instituta Ministerstva zdravookhraneniya SSSR.
(X RAYS--PHYSIOLOGICAL EFFECT) (FRACTURES) (AUTOLYSIS)

TOKARSKAYA, Z.B.

Neural regulation of autolysis in the irradiated organism [with summary in English]. Med.rad. 3.no.3:26-29 My-Je '58 (MIRA 11:7)

1. Iz biokhimicheskogo otdela (zav. - prof. S.Ye. Manoylov) Tsentral'nogo nauchno-issledovatel'skogo rentgeno-radiologicheskogo instituta Ministerstva zdravookhraneniya SSSR.

(AUTOLYSIS, effect of radiations,
in denervated organs (Rus))

(RADIATIONS, effects,
on autolysis of denervated organs (Rus))

TOKARSKAYA, Z.B.; VELEZHEV, I.S.; BLAGODETELEVA, V.A. (Kiyev)

Case of pulmonary candidiasis. Klin.med. 38 no.10:114-117 0 '60.
(MIRA 13:11)

1. Iz klinicheskogo otdeleniya (zav. - dotsent S.A. Kogan) Ukrain-
skogo instituta meditsinskoy radiologii (dir. - dotsent Ye.A.
Bazlov).

(MONILIASIS)

(LUNGS—DISEASES)

KIRYUSHKIN, V.I.; DOSHCHENKO, V.N.; PODGORODETSKAYA, V.N.; PLODINSKAYA, Z.B.

Clinical manifestations in single exposure of the human organism to
Cs¹³⁷. Med. rad. 8 no.11:33-40 N '63. (MIRA 17:12)

YELKINA, N.I.; TOKARSKAYA, Z.B.

Pathochemistry of the liver in poisoning with plutonium-239.
Vop. med. khim. 9 no.2:154-160 Mar-Apr '63. (MIRA 17:8)

L 10221-66 EWT(m)/T/EWP(t)/EWP(b)/EWA(c)/ETC(m) JD/WW

ACC NR: AP5028498

SOURCE CODE: UR/0286/65/000/020/0074/0075

AUTHORS: Aleksaev, R. I.; Voytenko, V. I.; Tokarskaya, Ye. A.

23
B

ORG: none

TITLE: Device for determination of moisture in gases. Class 42, No. 175681

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 74-75

9M

TOPIC TAGS: moisture content, moisture determination, moisture measurement, moisture

ABSTRACT: (This Author Certificate presents a device for determination of moisture in gases. The apparatus consists of a pipe with a mandrel, flow meter, d-c current supply, and a current meter (automatic or pointer type). On the mandrel are wound two platinum electrodes. The mandrel and electrodes are covered with a thin hygroscopic film, consisting of a partially hydrated coating of phosphorus anhydride. To obtain a uniform hygroscopic film, the mandrel is made from molybdenum glass and has bifilar spiral grooves on its surface for the electrodes. To increase the analytical response, the distance between neighboring electrode windings is maintained constant throughout the length of the mandrel. To increase the absorption of moisture by the hygroscopic film, a wire is wound on the mandrel in the direction opposite to the electrodes (see Fig. 1). The wire has an organic insulation and has a diameter equal to the space between the pipe and the mandrel. To signal excess moisture content in gases, the device has built into it a d-c triode amplifier and

Card 1/2

UDC: 533.275.08

L 10221-66

ACC NR: AP5028498

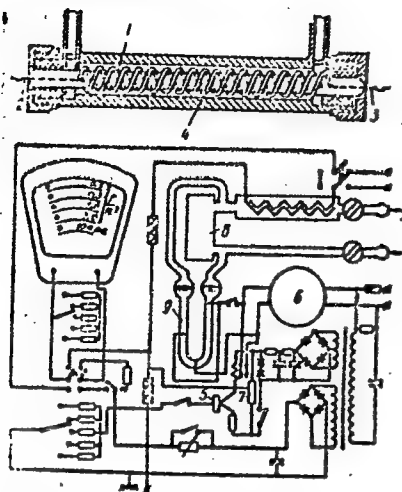


Fig. 1. 1 - Mandrel; 2 and 3 - electrodes;
4 - wire with organic insulation;
5 - d-c amplifier; 6 - sound
generator; 7 - relay; 8 - flow
regulator; 9 - manometer.

sound generator and a relay connected to the sound generator. To avoid errors of measurement (arising from fluctuations in the gas supply) exceeding the limiting values compensated for by the flow regulator, the entrance and exit of the flow regulator are connected to a differential mercury manometer equipped with contacts which close the circuit of the sound generator. Orig. art. has: 1 figure.

SUB CODE: 11/ SUBM DATE: 14Nov63

Card 2/2 07

MERENOVA, V.I.

USSR/Chemistry, Biological - Isotopes 1 Jul 52

"Biosynthesis of Glutamine, Hydrocarbons, and Proteins
Containing Radioactive Carbon," A. M. Kuzin, V. I.
Merenova, Lab of Biophys, Isotopes, and Radiation,
Dept of Biol Sci, Acad Sci USSR

"Dok Ak Nauk SSSR, Vol LXXXV, No 1, pp 181-183

Describes procedure for prep of glutamine, glucose
fructose, proteins, and pentosans contg C^{14} by the
method of biol photo synthesis. Presented by Acad
A. I. Oparin 24 Apr 52.

224T25

CH

Botany 11.10

Biosynthesis of nicotine labeled with carbon¹⁴ and the processes of transmethylation in tobacco leaves. A. M. Kurin and V. I. Mironova. *Doklady Akad. Nauk S.S.S.R.* 85, 383-5 (1952). Tobacco leaves (on the plant) were kept in the dark 2 days, cut, placed in a vessel with CO₂ labeled with C¹⁴, and subjected to illumination for 24 hrs. with elec. bulb; inactivation with hot water, mixing with ordinary tobacco leaves, mech. mincing of the mixt., and steam distn. from 2% NaOH gave the alkaloidal distillate, which was pptd. with silicotungstic acid; the ppt. showed radioactivity (60 counts/min./mg.). Steam distn. again after decompn. with NaOH and sepn. of nicotine as picrate gave material with 31 impulses/min./mg., indicating introduction of C¹⁴ into the alkaloid. If the leaves after irradiation are kept in the dark 8 hrs. the activity of isolated nicotine rises to over 100. Oxidation of the product with SeO₂ showed that the C¹⁴ is located in the N-Me group of the pyridine of nicotine. Leaves of *Nicotiana* thus carry on, transmethylation with participation of nicotine.

G. M. Kozolapoff

PERENOV, V. I.

235T6

USSR/Biology, Agriculture - Assimilation 21 Jul 52
of Carbon Dioxide

"Assimilation of Carbon Dioxide by Plant Roots,"
A. M. Kuzin, V. I. Merenova, Ya. V. Mamul', Lab of
Biophysics, Isotopes, and Radiation, Dept of Biol Sci,
Acad Sci USSR

"Dok Ak Nauk SSSR" Vol 85, No 3, pp 645-647

By using CO₂ or carbonate soils tagged with radio-
active carbon, established that CO₂ is resorbed
through the roots of Phaseolus vulgaris and reaches
the leaves. When there is no transpiration of the
leaves, or the roots have been detached, CO₂ is
assimilated by the roots rather than the green
235T6

parts of the plant. Assimilation of CO₂ by de-
tached roots of Primula obconica (thus eliminating
the effect of any nodule bacteria which may have
been present on Phaseolus vulgaris) was also es-
tablished. Presented by Acad A. I. Oparin
29 Apr 52.

235T6

MERENOVA, V.I.

The Committee on Stalin Prizes for the Sciences of the USSR has announced that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (*Sovetskaya Kultura*, Moscow, No. 22-24, 10 Feb - 3 Apr 1954)

<u>Name</u>	<u>Title of Work</u>	<u>Nominated by</u>
Kursanov, A.L.	"Plant Utilization of Soil	Institute of Biochemistry
Kuzin, A.M.	Carbon Dioxide Entering	imeni A.N. Bakh, Academy of
Kryukova, N.N.	Through the Roots"	Sciences USSR
Meranova, V.I.		

SO: W-3004. 7 Jul, 1954

KUZIN, A.M.; MERENOVA, V.I.; OPARIN, A.I., akademik.

Assimilation of carbon through roots of plants, from organic fertilizers.
Dokl. AN SSSR 90 no. 4: 677-679 No '53. (MLRA 6:5)

1. Akademiya Nauk SSSR (for Oparin). 2. Institut biologicheskoy fiziki
Akademii nauk SSSR (for Kuzin, Merenova). (Roots (Botany)) (Carbon--Iso-
topes)

MEHRENOVA, V. I.

KUZIN, A.M.; MEHRENOVA, V.I.

Biosynthesis of opium alkaloids labeled with radiocarbon.
Biokhimiia 19 no.5:616-618 S-O '54.

(MLRA 7:11)

1. Institut biofiziki Akademii nauk SSSR, Moscow.
(OPIUM ALKALOIDS) (CARBON--ISOTOPES)

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001756020012-7

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001756020012-7"

MERENOVA, V. I.

(2)
Direct assimilation of carbon from organic fertilizers by a plant. V. I. Merenova and A. M. Kuzin. *Doklady Akad. Nauk S.S.S.R.* 94, 573-6(1954); cf. *ibid.* 90, 677(1953).—Radioactively labeled org. compounds of water-sol. and -insol. types were administered from culture soil to wheat and tobacco plants and the plant sprouts were subjected to radioautophotography in the conventional manner. Thus tobacco plants readily assimilate C from water-sol. sugars, amino acids, and org. acids (AcOH, glycine). The plants show relatively slow assimilation of C from water-insol. materials. Generally the assimilation proceeds at the expense of CO₂ liberated by bacterial action of the soil from its org. content as well as by direct utilization of the org. matter by the plant.
G. M. Kosolapoff

Merzouk, I

✓ *Assimilation of carbon from organic fertilizers by plants.*
A. M. Kuzin and V. I. Merzouk. Trudy Inst. Biol. Fiz.,
Akad. Nauk S.S.S.R. 1, 247-35 (1955).--Kidney beans
which were exposed only at the roots to an atm. enriched
with $C^{14}O_2$ showed a spread of C^{14} throughout the plant
within 2 hrs. Isolated root exposed to light and $C^{14}O_2$
also actively absorbed C^{14} fixing some 50% of the amt. fixed
by the normal plant root; the C^{14} was then found in carbo-
hydrate and protein fractions. A similar expt. with
**Primula* gave the same result, indicating that the nodule*
bacteria were not responsible for the 1st set of results.
Plant matter fertilizer prepd. by maceration of green plants
after previous cultivation in $C^{14}O_2$ atm. was used for nutri-
tion of young wheat plants for a week in a multisection expt.
of 130-day duration. The results showed an intense assimila-
tion of the org. C^{14} by the plant roots, particularly vigor-
ous during the 1st days after planting. The direct assimila-
tion of sol. substances was very energetic. G. M. K.

2

TOKARSKAYA (MERENOVA), V. I.

TOKARSKAYA (MERENOVA), V. I. -- "The Isotope Method of Investigating the Absorption and Assimilation of Organic Matter by Plants." Acad Sci USSR, Department of Biological Sciences, Moscow, 1956. (Dissertation for the Degree of Candidate of Biological Sciences)

SO: Knizhnaya Letopis' No 43, October 1956, Moscow

11-1-1956

✓ Movement of nutrient substances in the plant. A. M. Kuzin, V. I. Merenova, and L. Kh. Eldus (Biophys. Inst., Moscow). *Fiziol. Rastenii* 3, 121-4 (1956).—Tests with kidney-bean plants utilizing D_2O (20% soln. for root immersion), and C^{14} -labeled $AcONa$ (labeled in CO_2H group), showed that the C^{14} enters rapidly the leaves of the plant under conditions of illumination, as does the D_2O . Darkness regards this movement.

C. M. Kosolapoff

3

NEMETS, O. F.; TOKAREVSKIY, V. V.; ZAYKA, N. I., Klev

"The level excitation probabilities in nuclear reactions."

report submitted for Intl Conf on Low & Medium Energies Nuclear Physics,
Paris, 2-8 Jul 64.

TOKARSKAYA-MERENOVA, V.I.

Direct assimilation of organic phosphorus compounds by higher plants [with French summary in insert]. Pochvovedenie no.12: 17-24 D '56. (MLRA 10:2)

1. Institut biologicheskoy fiziki Akademii nauk SSSR.
(Phosphorus compounds) (Plants--Nutrition)

TOKARSKAYA, V.I. (Merenova); KUZIN, A.M.

Metabolism of acetate-1-C¹⁴ absorbed by plant roots [with English summary in insert]. Biokhimiia 21 no.6:816-825 N-D '56. (MLRA 10:7)

1. Institut biologicheskoy fiziki Akademii nauk SSSR, Moskva.
(ACETIC ACID) (PLANTS--ASSIMILATION)
(PLANTS, EFFECT OF LIGHT ON)

TOKARSKAYA, V. I. and KUZIN, A. M.

"A total label of the organic substances of a plant by radio-active carbon as a method for studying metabolic disturbances," a paper submitted at the International Conference on Radioisotopes in Scientific Research, Paris, 9-20 Sep 57.

KUZIN, A.M.; TOKARSKAYA-MERENOVA, V.I.

Role of pyrimidine metabolism disorders in radiation injury.
Biofizika 4 no. 4:446-453. '59. (MIRA 14:4)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(RADIATION SICKNESS) (PYRIMIDINES)

KUZIN, A.M.; TOKARSKAYA, V.I. (Merenova)

Complete C_{14} -labeling of organic substances in plants as a method of studying metabolic disorders [with summary in English]. Biokhimiia 24 no.1:80-86 Ja-F '59. (MIRA 12:4)

1. Institute of Biological Physics, Academy of Sciences of the U.S.S.R., Moscow.

(CARBON, radioactive,
labeling organic cpds. in investigation of plant
metab. disord. (Rus))
(PLANTS, metabolism,
radiocarbon labeling organic cpds. in investigation
of metab. disord. (Rus))

TRINCHER, K.S.; TOKARSKAYA, V.I.

Primary and initial mechanisms of the biological activity of
nuclear radiations. Biofizika 5 no. 6:758-761 '60.

(RADIOACTIVITY—PHYSIOLOGICAL EFFECT)

(MIRA 13:10)

TOKAISKAYA, V. I. (USSR)

"Change in the Character of the DNA Synthesized in Plants
after γ -Irradiation."

Report presented at the 5th International Biochemistry Congress,
Moscow, 10-16 August 1961

TOKARSKAYA, V. I.

Molecular Structure of DNA and Radiation Damage to Cells

N. B. Strazhevskaya and V. A. Storchkov

In previous investigations the authors demonstrated in various cell types (erythrocytes and bone marrow of chickens, *E. coli*, Ehrlich ascites cells) the high radiation-sensitivity of the macromolecular DNA structures. In this investigation the authors studied the dynamics of the state of macromolecular DNA structures as a function of dose (50, 200, 500, 1000 and 5000 r) and of the time after γ -irradiation of rats (0.25, 1, 2, 4, 6, 8, 24 and 48 hr) in organs with different radiation sensitivity (thymus and liver). It was found that a distinct disturbance in the physico-chemical state of the macromolecular DNA structure in the thymus and liver is observed immediately after γ -irradiation of rats. The magnitude of the effect depends on dose. In the thymus this relationship is of an exponential nature for doses below 1000 r. The further fate of the macromolecular structure of DNA after irradiation is different for the radiosensitive and radioresistant tissues. In the thymus the changes of the macromolecular structure of DNA are irreversible, whereas in the liver this process is reversible. However, in the regenerating liver the disturbance of these structures following irradiation becomes irreversible, as in the case of thymus.

It is suggested that the radiosensitivity of the cell is determined by the special state of the macromolecular DNA structure (thymus) and by the presence of some mechanisms which are able to restore these structures (liver).

Institute of Biophysical Physics of the Academy of Sciences of the USSR, Moscow

The Initial Stages of Radiation Injury to DNA Structure

V. I. Tokarskaya

Our results confirm the assumption of a point injury in the structure of DNA molecules during irradiation, the point of injury being thymine. Observations on dry seeds and on isolated DNA showed that the injuries to the structures are of a potential nature and develop in the presence of water. The effects of neutron or γ -irradiation on the DNA structure of seeds were different.

Using ^{14}C labelling it was shown that the changes in the template result in faulty synthesis and the DNA synthesized after irradiation has a qualitatively different composition.

To explain the remote effects of radiation on DNA it is suggested that loops are formed in the structure of irradiated DNA due to the loss of thymine.

Institute of Biophysics, Academy of Sciences of the USSR, Moscow

report presented at the 2nd Intl. Congress of Radiation Research,
Harrogate/Yorkshire, Gt. Brit. 5-11 Aug 1962

TOKANSKAYA, V.I.

Qualitative changes in the desoxyribonucleic acid of pea seedlings following gamma irradiation. Radiobiologiya 1 no.3:330-332 '61.
(MIRA 14:10)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(DESOXYRIBONUCLEIC ACID)
(PLANTS, EFFECT OF GAMMA RAYS ON)

TOKARSKAYA, V.I.

International symposium on primary and initial processes occurring
in living cells during the action of ionizing radiation (Moscow,
October 1960). Radiobiologiya 1 no.2:312-318 '61. (MIRA 14:7)
(RADIOBIOLOGY...CONGRESSES)

TOKARSKAYA, V.I.

Decrease of the amount of thymine in the desoxyribonucleic acid
of gamma-irradiated pea seedlings. Radiobiologii 1 no.2:193-199
'61. (MIRA 14:7)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(PLANTS, EFFECT OF GAMMA RAYS ON) (THYMINE)
(DESOXYRIBONUCLEIC ACID)

KUZIN, A.M.; ISAYEV, B.M.; KHVOSTOVA, V.V.; ~~TOKARSKAYA, V.I.~~; BREGADZE, Yu.I.

Effectiveness of the biological action of C^{14} during its incorporation into living structures. Dokl. AN SSSR 134 no.4: 951-954 0 '60. (MIRA 13:9)

1. Institut biologicheskoy fiziki Akademii nauk SSSR. 2. Chlen-korrespondent AN SSSR (for Kuzin).

(CARBON--ISOTOPES)

(PLANTS, EFFECT OF RADIOACTIVITY ON)

TOKARSKAYA, V.I.

Conditions for the detection of hidden defects in the structure
of DNA in seed following gamma irradiation. Radiobiologia 2
no.1:161-165 Ja '62 (MIRA 18:1)

S/747/62/000/000/016/025
D296/D307

AUTHORS: Kuzin, A. M., Isayev, B. M., Khvostova, V. V., Tokarskaya, V. I. and Bregadze, Yu. I.

TITLE: The biological effect of C^{14} incorporated into living tissues

SOURCE: Radiatsionnaya genetika; sbornik rabot. Otd. biol. nauk AN SSSR. Moscow, Izd-vo AN SSSR, 1962, 267-273

TEXT: After the performance of nuclear tests the content of radioactive carbon in the atmosphere increased between 1955 and 1958 at 5% annually. When assessing the possible biological effects of these doses they are usually estimated by the radiosensitivity of living tissues exposed to the external source of radiation. These calculations fail, however, to take into consideration the special geometry of incorporation of C^{14} into radiosensitive structures such as chromosomes as well as the so-called transformation effect in DNA molecules ($C^{14} \rightarrow N^{14}$). These effects may lead to more frequent aberrations.

Card 1/3

The biological effect ...

S/747/62/000/000/016/025
D296/D307

tions than expected from calculations on the basis of the dose to which the cells are exposed. The authors compared the biological effect of C^{14} incorporated into plant seedlings, with the effect of exposure to external gamma radiation emitted by Co^{60} . Normally growing 10-day old plants were placed into a photosynthesis chamber containing $C^{14}O_2$ (total activity $100 \mu C$, volume of chamber $22.5 dm^3$); radioactivity of the inner layer of the plants was estimated on scintillation counters and the tissues were investigated cytologically, counting the proportion of micronuclei and the mitotic index. The percentage of cells with chromosome aberrations increased from 0.16% in the control plants to 0.26% in the experimental plants. Plant cells exposed to more than double the dose of radiation (Co^{60}) showed a slight increase in the number of aberrations but calculation revealed that the mutagenic effect of incorporated C^{14} was ten times higher than that of an equal dose of external irradiation. This fact shows that the transformation effect $C^{14} \rightarrow N^{14}$ as well as

Card 2/3

The biological effect ...

S/747/62/000/000/016/025
D296/D307

the special geometry of the incorporation of C^{14} are factors to be considered further. There is 1 figure and 1 table.

ASSOCIATION: Institut biologicheskoy fiziki AN SSSR, Moskva (Institute of Biological Physics, AS USSR, Moscow)

Card 3/3

TOKARSKAYA, V.I.; KONDRATIEVA, G.V.

Injury to the DNA structure under the influence of large doses
of gamma rays in vitro. Radiobiologiya 4 no.3:357-359 1964.

UMIA 17117

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

L 25811-66 EWT(1)/EWT(m)/T JK

ACC NR: AP6015925

SOURCE CODE: UR/0216/65/000/004/0507/0520

AUTHOR: Kuzin, A. M.; Plyshevskaya, Ye. G.--Plyshovskaya, E. G.; Kopylov, V. A.;
Ivanitskaya, Ye. A.--Ivanitzkaya, E. A.; Lebedeva, N. Ye.--Lebedeva, N. E.;
Kolomytseva, I. K.--Kolomytzeva, I. I.; Mel'nikova, S. K.--Melnikova, S. K.;
Tokarskaya, V.I.

ORG: Institut of Biophysics, AN SSSR, Moscow (Institut biologicheskoy fiziki AN SSSR)

TITLE: Function of the orthophenol-orthoquinone system in the early mechanism of
action of ionizing radiation on the organism

SOURCE: AN SSSR. Izvestiya. ¹⁹ Seriya biologicheskaya, no. 4, 1965, 507-520

TOPIC TAGS: ionizing radiation, radiation biologic effect, radiation plant effect,
tyrosine, sorption, oxidation, DNA, biosynthesis, radiation sickness

ABSTRACT: The authors concluded from a variety of experiments on plants
and animals that the initial processes in the irradiated organism develop
in the following sequence:

(1) During irradiation the formation of active radicals causes very
slight radiochemical oxidation of the phenols present in the cell, chiefly
tyrosine.

(2) The resultant oxidation products activate tyrosinase, which
immediately after irradiation leads to the formation of large quantities of
biologically active orthoquinones.

(3) The resultant orthoquinones are actively sorbed by the cell nuclei.

Card 1/2

UDC: 577.391

L 25811-66

ACC NR: AP6015925

(4) The orthoquinones sorbed by the nuclei inhibit DNA synthesis, block the incorporation of thymidine into newly synthesized DNA, and alter their fluorescence in the presence of acridine orange.

(5) The blocking of nuclear DNA by the orthoquinones sharply inhibits cell division, giving rise to leukopenia, arrested growth, weight loss, chromosomal aberrations, and, in sufficiently high concentrations, death of the organism. Orig. art. has: 10 figures and 4 tables. [JPRS]

SUB CODE: 06, 07 / SUBM DATE: 22Jan65 / ORIG REF: 021 / OTH REF: 010

Card 2/2 CC

TOKARSKI, A.

GEOGRAPHY & GEOLOGY

PERIODICALS: ACTA GEOPHYSICA POLONI A. Vol. 6, no.2, 1958

TOKARSKI, A. Significance of water intectonic diagnosis. In English. p. 105

Monthly List of East European Accessions (EEAI) LC Vol. 8, No. 4,
~~May~~ 1959, Unclass.
April

TOKARSKI, ADAM

PA 30118

POLAND/Geology
Geological Prospecting

Aug 1947

"The Hills of Grojec and the Tectonic Windows of
Zywiec," Adam Tokarski, 53 pp

"Biuletyn, Panstwowy Instytut Geologiczny" No 28

Geological discussion, with maps, of the stratigraphy,
tectonics, and prospects for location of hydrocarbon
resources in the area under discussion.

SI

30118

3. Surface survey of (geological) structures. A. Tokarski, *Prace Geologiczne*, 1959, 9, 281-7. The geologist has at his disposal the information revealed by local digging and manual drilling, but in the Carpathians it is important to choose the locality for such operations so as not to waste expense, when information can often be gained from keen surface observations. The Carpathians are built up of long unbroken undulating anticlines, and often eroded formation farther along will reveal the required information. When shallow drilling is decided upon, the choice of locality should be made from the point of view of the actual information required, and not according to a pre-arranged method. The author's own experience in the analysis of the "Bednarka loop" on the borders of Jaslo and Gorlice areas showed that the formations exposed by a stream in its valley are quite enough to identify the whole structure. Thus great savings can be achieved in the search for oil in that region.

M. B.

TOKARSKI, A.

"The Directives for the Fifth Five- Year Plan in the USSR." p. 105 (NAFTA, Vol. 9, No. 4,
Apr. 1953) Warszawa

SO: Monthly List of East European Accessions, Library of Congress, Vol. 2, No. 10,
October 1953. Unclassified.

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